

**Pemetaan dan Perhitungan Cadangan Hidrokarbon Reservoir  
“YL-1” dan “YL-2” Formasi Balikpapan Berdasarkan Data Log  
di Lapangan “TANGGO” Cekungan Kutai Bawah Kalimantan  
Timur**

**INTISARI**

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Lokasi Daerah telitian terletak di salah satu lapangan Chevron Indonesia Company yang berada  $\pm 30$  km selatan kota Balikpapan dengan kedalaman 140 dpl. Lapangan “TANGGO” termasuk dalam Cekungan Kutai Bawah Kalimantan Timur, sebagai fokus telitian berada pada Reservoir “YL-1” dan “YL-2”. Penelitian dilakukan dengan menggunakan data yang dimiliki oleh Chevron Indonesia Company, meliputi data log sebagai data utama. Data log yang digunakan berasal dari 7 sumur pemboran yang berada di lapangan “TANGGO”. Data-data diharapkan dapat mencerminkan kondisi atau gambaran bawah permukaan secara detail.

Tujuan dari penelitian ini adalah untuk mengetahui gambaran permukaan dengan cara membuat peta bawah permukaan seperti : peta *Depth Structure*, Peta *Net Sand* dan peta *Net Pay* yang untuk mengetahui penyebaran unit reservoirnya, jenis fluida serta menghitung cadangan hidrokarbon pada reservoir “YL-1” dan “YL-2”. Reservoir “YL-1” dan “YL-2” merupakan Reservoir batupasir formasi Balikpapan cekungan Kutai Kalimantan Timur. Reservoir “YL-1” dan “YL-2” terendapkan pada lingkungan Delta Plain pada kala Miosen tengah.

Berdasarkan analisis data log reservoir “YL-1” dan “YL-2” dapat disimpulkan bahwa litologi yang terdapat di daerah telitian tersusun atas (mendominasi) batupasir, batulempung, batubara. Berdasarkan analisis fluida menunjukkan bahwa Reservoir “YL-1” dan “YL-2” memiliki kandungan fluida minyak dan gas. Hasil perhitungan cadangan pada reservoir “YL-1” terdapat OOIP sebesar 1 MMbo, OGIP sebesar 2 Bscf, dengan cadangan minyak yang dapat diambil (*recoverable reserv*) sebesar 0,2 MMbo, dan cadangan gas yang dapat diambil sebesar 1,4 Bscf. Sedangkan pada Reservoir “YL-2” terdapat OGIP sebesar 37 Bscf, dengan cadangan gas yang dapat diambil sebesar 25,9 Bscf.

*Kata kunci : Delta plain, Peta Depth structur, Peta Net pay, Peta Sand*

**Mapping and Calculating Hydrocarbon Reserve in Reservoir  
“YL-1” and “YL-2” Balikpapan Formation Based on Log Data in  
“TANGGO” Field Kutai Basin, East Borneo**

**ABSTRACT**

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It is located in one of the Chevron Indonesia Company's Field, which is located for about  $\pm 30$  km in South of Balikpapan city and has 140 dpl. “TANGGO” Field is including on Lower Kutai Basin in East Borneo, the focus of this thesis located in Reservoir “YL-1” and “YL-2”. This research used data that has been taken from Chevron Indonesia Company, it was included the log data as the primary data. Log data that has been used from 7 well completion that located in “TANGGO” Field. This data might be expected could explain the real condition in the subsurface completely.

The purpose of this research to know the real condition in subsurface by making the subsurface map, such as: Depth Structure Map, Net Sand Map, and Net Pay Map that has been used to know the distribution of reservoir, kinds of fluids and also to calculate the hydrocarbon reserve in reservoir “YL-1” and “YL-2”. Reservoir “YL-1” and “YL-2” were composed by sandstone formation Balikpapan in Kutai Basin East Borneo. Reservoir “YL-1” and “YL-2” were deposited in Delta Plain Middle Miosen.

Based on log data analysis reservoir “YL-1” and “YL-2” could be concluded that lithology has been contained in research area composed (dominated) sandstone, claystone, and coal. Based on fluids analysis could be concluded that reservoir “YL-1” and “YL-2” had the fluids contain, such as oil and gas. The calculation's result in reservoir “YL-1” contained OOIP for about 1 MMbo, and OGIP for about 2 Bscf, with the oil reserve that could be taken (recoverable reserve) for about 0,2 MMbo, and the gas reserve that could be taken for about 1,4 Bscf. Otherwise in reservoir “YL-2” contained OGIP for about 37 Bscf, and the gas reserve that could be taken for about 25,9 Bscf.

*Keyword : Delta Plain, Depth structur map, Net pay map, Net sand map.*